

WHAT IS CLAIMED IS:

1. An OFDM receiver device comprising:

means for receiving an OFDM signal and extracting a plurality of information signals and a plurality of known signals from the OFDM signal, wherein the information signals and the known signals are in an arrangement on a frequency axis in such a manner that the known signals are dispersed in the information signals, the information signals are allocated in a frequency band lower than the known signals in the lowest frequency side among the known signals and in a frequency band higher than the known signals in the highest frequency side among the known signals, and the arrangement of the OFDM signals are in a same time direction;

means for calculating a transmission path response of the known signals using the extracted known signals;

means for estimating transmission path characteristics, by using the calculated transmission path response of the known signals, of the information signals allocated among the known signals, the information signals allocated in the lower frequency side and the information signals allocated in the higher frequency side; and

means for compensating for amplitude and phase of the extracted information signals by using the estimated transmission characteristics of the information signals.

2. The OFDM receiver device as in claim 1, wherein:
the estimating means estimates the transmission path

characteristics by a linear interpolation.

3. The OFDM receiver device as in claim 2, wherein:

the estimating means estimates the transmission path characteristics of the information signals allocated in the lower frequency side by using the transmission path response of the known signals in the lowest frequency side and the transmission path response of the known signals allocated adjacent to the higher frequency side than the known signals of the lowest frequency side, and estimates the transmission path characteristics of the information signals allocated in the higher frequency side by using the transmission path response of the known signals in the highest frequency side and the transmission path response of the known signals allocated adjacent to the lower frequency side than the know signals of the higher frequency side.

4. The OFDM receiver device as in claim 1, wherein:

the estimating means estimates the transmission path characteristics by an interpolation using Sinc functions.

5. The OFDM receiver device as in claim 4, wherein:

the estimating means determines the transmission path response of each of the extracted known signals and executes the interpolation by matching the transmission responses of the known signals with a maximum value of the Sinc functions and combining the Sinc functions while passing the Sinc function through a zero

point of the transmission path response of the other known signals.

09782839-021501